II. Remarks

Reconsideration and re-examination of this application in view of the above amendments and the following remarks is herein respectfully requested

Claim Rejections - 35 U.S.C. §102(b)

Claims 1, 4, 5, 6, 7, and 9 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,367,455 to Hirata et al. (Hirata).

Claims 1 and 6 provide for (1) determining an estimated fuel pressure based upon the projected engine fuel demand, and (2) determining an opening time for said fuel injectors based upon the estimated fuel pressure. Applicant asserts the Examiner has failed to meet his burden under 35 U.S.C. §102(b), in that, Hirata does not teach the above-mentioned elements.

The Examiner contends Hirata "teaches a projected fuel demand in the form of a pump control output and then calculates an estimated fuel pressure." However, the Examiner does not assert that the estimated fuel pressure is calculated based on the projected fuel demand, as asserted by claim 1 and 6. Hirata states "the current estimated fuel pressure p_{fe} is attained by subtracting ΔP_{lvd} and ΔP_{pvstd} from the previous estimated fuel pressure p_{fe}, and adding ΔP_{pvdru}. ΔP_{lvd}, ΔP_{pvstd}, and ΔP_{pvdru} are all pressure changes calculated based on the valve opening time T_{inj}, the previous cycle's estimated fuel pressure p_{fe}, and various counters indicating the time the fuel pump has been in an on or off state. However, Hirata does not teach the estimated fuel pressure p_{fe} is calculated based on a projected engine fuel demand.

Further, the Examiner contends that Hirata teaches "the estimated fuel pressure used to set the opening time for the injectors" and refers to Hirata, column 5, lines 43-58. With regard to the calculation of the valve opening time, Hirata

merely states, in line 43, "step 300 calculates a total valve opening time T_{inj} of the injectors 21 for all cylinders of the engine 11." Clearly this does not teach, or even suggest, the valve opening time T_{inj} being calculated based on the estimated fuel pressure p_{fe}. Rather, Hirata teaches the opposite; p_{fe} is calculated based on the valve opening time T_{inj}. Hirata thus does not teach determining the opening time of the fuel injectors based upon the estimated fuel pressure and does not teach or suggest the present invention.

Claims 4, 5, 7 and 9 depend directly on claims 1 or 6, and are, therefore, patentable for at least the reasons provided above in support of claims 1 and 6. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §102(b).

Claim Rejections - 35 U.S.C. §103(a)

Claim 2 was rejected under 35 U..S.C. §103(a) as being unpatentable over U.S. Patent 6,367,455 to Hirata et al. (Hirata).

Claims 3 and 8 were rejected under 35 U..S.C. §103(a) as being unpatentable over U.S. Patent 6,367,455 to Hirata et al. (Hirata) in view of U.S. Patent 6,701,905 to Gaskins (Gaskins).

Claims 2, 3 and 8 depend directly on claims 1 or 6, and are, therefore, patentable for at least the reasons provided above in support of claims 1 and 6. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §103(a).

Conclusion

In view of the above amendments and remarks, it is respectfully submitted that the present form of the claims are patentably distinguishable over the art of record and that this application is now in condition for allowance. Such action is respectfully requested.

Respectfully submitted,

October 20, 2004
Date

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